DOCUMENT RESUME

ED 076 925 CG 008 149

AUTHOR	Silberman, Adolph, Ed.; And Others
TITLE	Special Programs Aimed at Reaching Children: S.P.A.R.C. Case Studies II.
INSTITUTION	Tempe Elementary School District 3, Ariz.
PUB DATE	71
NOTE	44p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Behavioral Counseling; Case Records; *Case Studies; Child Development; Childhood Needs; Child Psychology; *Children; *Counseling; *Counseling Effectiveness; Counseling Services; Counselors; Group Counseling; Models; *Problem Children; Socially Deviant Behavior; Students
IDENTIFIERS	SPARC; Special Programs Aimed at Reaching Children

ABSTRACT

This case study booklet, written by the program's counseling staff, evolved from five actual cases in which a psychologist and counselors were involved. Both the techniques and the results are specified in the hope that counselors and psychologists in other districts will attempt similar methods in helping children with deviant behavior problems. Although names of the children have been changed for their protection, all the techniques and data presented are accurate. Case studies include the use of counseling groups to promote positive peer relationships, counseling with behavioral methods in the classroom, the use of the behavior modification techniques of contracting, positive reinforcement, and successive approximation. (Author/SES)

ED 076925

C6

S.P.A.R.C.

SPECIAL PROGRAMS AIMED AT REACHING CHILDREN

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

CASE STUDIES II

Tempe Elementary School District No. 3
Tempe, Arizona
1970-1971

CG 008 149

FILMED FROM BEST AVAILABLE COPY

ED 076925

CASE STUDIES II

Contributors

Eleanor Earl
Charlotte Goodburn
Alan Greenbaum and Adolph Silberman
Larry Mishler
Judee Winters

Edited by Adolph Silberman

With appreciation to Carolyn Wilkerson for her editorial comments and Barbara Barmore and Barbara Cochell for their comments concerning the contents of this booklet, as well as their secretarial skills.

Tempe Elementary School District
Tempe, Arizona

1970-1971

FORWARD

This case study booklet has been prepared by the SPARC (Special Program Aimed at Reaching Children) counseling staff. SPARC is sponsored by an ESEA Title III grant. The goal of the program is to generate innovative ideas that can serve as a demonstration model for other school systems to adopt.

The case study booklet was written from actual cases in which the psychologist and counselors were involved. Both the techniques and the results are specified in hope that counselors and psychologists in other districts will attempt similar methods in helping children with deviant behavior problems. All names of children have been changed for their protection. However, all the techniques and data presented is accurate. If the reader wishes further information on these techniques, he should correspond with Dr. Adolph Silberman at Tempe Elementary Schools.

TABLE OF CONTENTS

The Case of Sam: The Use of Counseling Groups to Promote Positive Peer Relationships
By Eleanor Earl. 1

The Case of Victor
By Charlotte Goodburn 8

Counseling with Behavioral Methods in the Classroom
By Alan Greenbaum and Adolph Silberman 15

The Case of Tom
By Larry Mishler 27

The Case of Laura
By Judee Winters 35

THE CASE OF SAM

The Use of Counseling Groups to Promote Positive Peer Relationships

By Eleanor Earl

PROBLEM

Sam was a sixth-grade boy who referred himself to the counselor because he felt rejected by his peers. He complained that he did not have any friends and that others were always "picking" on him. He stated that children frequently told him to "shut up" and made cutting remarks about him. He felt unable to defend himself against physical or verbal abuse.

Consultation with his teacher revealed that Sam was an almost constant distraction to his class. These distractions took the form of unusual "chirping" sounds and frequent trips from his seat to various parts of the room. The latter often ended with Sam being tripped or hit on his way to or from his desk. This caused additional disturbances. The teacher noted that there were often hostile remarks directed toward Sam. However, she felt that these were proportional to similar remarks made by Sam. She indicated that she tried various means of discipline in an attempt to pressure Sam into changing his behavior. All of these had failed and, in fact, had seemed to cause an increase in deviant behavior.

Sam's parents reported no unusual behavior at home but they stated that he had always wanted a great deal of attention and that he seldom played with neighborhood children. It was their feeling that this was basically a school problem.

OBSERVATIONS

Sam was observed in his classroom on three occasions for a total of 45 minutes. Special attention was given to the percent of time he spent attending to the desired task. The child's attention to task did not exceed 40%. His average attention to task was 36%.

In addition to attention to task, the number of "chirping" noises the child made and the number of trips from his seat to elsewhere in the room for three 15-minute periods were further recorded. The frequency of noises made varied from six to eleven times for a 15-minute period of time. The average number of noises made for the three observations was eight. The number of times the child was out of his seat, however, seems to vary slightly. This variation was from three to four times within 15 minutes.

While recording the objective data, the observer noted that Sam's deviant behavior seemed to increase whenever he received attention from his classmates and the teacher. It was further noted that all of Sam's trips covered the same "dangerous course" despite the fact that they did not represent the most direct route between his seat and the destination. On several of these trips,

he was observed disturbing students as he passed (grabbing pencils, knocking books to the floor, and stepping on toes). Each disturbance caused immediate reprisal.

As the result of these observations and consultations, coupled with several individual counseling sessions, the following conclusion was reached. It was believed that Sam felt isolated from his peers and lacking the social skills necessary to establish positive relationships had resorted to many self-defeating behaviors in order to gain attention. It was felt that the counseling objectives in working with Sam should be to help him learn more positive ways of relating to his peers. It was further felt that these behaviors would be more readily learned from his peers than as a result of other counseling techniques. It was believed that when better relationships were established, Sam's academic progress would improve.

TREATMENT

In an attempt to decrease the amount of attention Sam was receiving for his deviant behavior in the classroom, the help of his teacher was requested. She agreed to ignore as much of his attention-getting behavior as possible and also to reinforce any successive approximations of the desired behaviors through the use of attention and verbal praise. These desired behaviors were attention to task and positive interactions with peers.

Since peer acceptance appeared to be one of Sam's main

concerns, it was decided to work with him in a group counseling situation. A group of six boys from his class were selected to take part in the group. A sociogram administered to the class was used in making selections. It was decided to include several boys in the group who had an average to high number of social choices. It was hypothesized that these boys must have the necessary social skills to have established positive relationships with their classmates and therefore, these boys could serve as models for Sam.

The group met once a week for one hour. The meetings continued for a period of two-and-a-half months. Though basically nondirective in nature, the group was encouraged to talk about interactions between peers and ways of establishing and strengthening friendships. Emphasis was placed on direct and honest communication and the development of sensitivity for the feelings of others. An attempt was made to deal with problems and related feelings as they occurred. The counselor functioned as a facilitator and also gave verbal reinforcement when the group members expressed positive feelings for each other.

RESULTS

One week following the termination of group sessions, Sam was again observed in the classroom. Table I reports the amount of time that the child attended to task during three different 15-minute observations. The amount of time the child attended to

task varied only slightly--from 55% to 60% of the time. Compared to the pretesting, this is a 21% average increase in Sam's attention to task.

TABLE I

Pretesting Percentage of Time Attending to the Appropriate Task		Posttesting Percentage of Time Attending to the Appropriate Task	
Observation Time	Percent of Time Attending to Task	Observation Time	Percent of Time Attending to Task
15 min.	33%	15 min.	55%
15 min.	40%	15 min.	60%
15 min.	36%	15 min.	57%

The data recorded in Table II is a frequency count on the posttest observation of the amount of noises the child made in class and the number of times he was out of his seat during three 15-minute observational periods. It can be seen from this data that the number of noises that the child made also varied slightly from two to three times. The average number of noises made on the pretesting was 8.3 and on the posttesting 2.3. This indicates a reduction of six times in a 15-minute period of time. The number of times the child was out of his seat varied from zero to one. This is compared with the pretesting which was three to four times. The average number of times out of his seat on the pretesting was 3.3 and on posttesting it was .3.

TABLE II

Pretest Frequency of Noises Made and Times Out of Seat			Posttest Frequency of Noises Made and Times Out of Seat		
Observation Time	Frequency of Noises	Frequency of Times Out of Seat	Observation Time	Frequency of Noises	Frequency of Times Out of Seat
15 min.	11	4	15 min.	2	0
15 min.	6	3	15 min.	3	1
15 min.	8	3	15 min.	2	0

DISCUSSION

During the course of treatment, both the teacher and the counselor noted a marked decrease in deviant behavior and an increase in positive interaction with peers. The teacher observed that Sam appeared to be included more in playground activities. The number of hostile remarks toward others also seemed to decrease.

It is difficult in assessing social growth to determine the causes of change. It appears from this case that Sam benefited both from the teacher focusing her attention on Sam's acceptable behavior rather than his deviant behavior and from the group counseling procedures. The child's inattention to task, his noise-making, and his out-of-seat behavior was no longer reinforced by the teacher and the group counseling sessions seemed to help

Sam develop more self-awareness and sensitivity to others. Therefore, Sam was able to relate in more positive ways with his classmates resulting in more harmonious interactions rather than needing to gain attention through disruptive behavior.

THE CASE OF VICTOR

By Charlotte Goodburn

PROBLEM

Victor, an extremely overweight nine-year-old, fourth grade boy, was referred to the counselor by his homeroom teacher. The presenting problem was a high rate of absenteeism, and when he did attend school, frequent vomiting. This problem occurred at the beginning of the year in first grade and had continued throughout the following grades. At the time of the referral, school had been in session for 29 days and Victor had been absent for 14 days. In addition to these absences, he had been taken home by the school nurse three days because of his stomach being upset. The nurse reported that Victor spent much time in her office lying down and complaining about his illness, but he was usually able to eat his entire meal during lunch.

Victor's three teachers stated that he was at least a year behind grade level in all subjects except spelling. They felt that perhaps he should repeat third grade again in the hope of easing the pressure they thought he was under.

Since Victor was absent when the referral was made, the counselor contacted his parents. They stated that they were extremely upset and puzzled by Victor's problem. Victor had been repeatedly taken to the family physician for treatment of his vomiting. The parents mentioned that the doctor had given Victor the entire gastrointestinal

series and had found no organic cause for his stomach distress. Victor's parents also volunteered that the doctor felt that Victor's discomfort was precipitated by anxiety over school and had suggested that his parents contact the school "to find out what was going on." The parents spoke of medication that was being administered to their son at 4:00 every morning in an attempt to prevent vomiting. However, they felt that this was ineffective because Victor could not retain it. The parents said that Victor sometimes vomited up to seven times before breakfast (which he ate) and ran a fever as high as 102. They also expressed their feeling that both the vomiting and fever were beyond their son's control.

Further questioning of the parents brought out the facts that they both worked during the day and that the paternal grandmother had resided in the family home throughout the marriage. When Victor stayed home from school, he was cared for by his grandmother who usually allowed him to watch television. The father added that Victor also vomited frequently on weekends and during the summer months, particularly when he became excited over some new experience.

Victor's parents were asked what they believed their child's problem was at school. They replied that their son seemed disappointed that he was not assigned to his former third-grade teacher (she was reassigned to teach fourth grade) and also that he did not enjoy physical education (particularly football). It was pointed out to Victor's parents that his absenteeism and vomiting behavior were also present during the time he was a student in this "favored" teacher's classroom.

TREATMENT

The counselor requested at staffing that a treatment plan be developed for Victor. Included in the staffing were Victor's parents, the principal, his three current teachers, two former teachers, the psychologist, and the counselor. Agreement was quickly reached that since his IQ scores were of high-average intelligence and his difficulty in academic subjects seemed to be due to his continued absences, it would be unwise to place him back in the third grade. It was believed by the staff that Victor could be brought up to grade level and could successfully complete fourth grade work if he attended school on a regular basis. It was suggested to his parents that their primary responsibility in the treatment was to get their son to school every morning and then allow the school to assume the full responsibility of keeping him there. The psychologist (Dr. Al Silberman) recommended that Victor be allowed to have a plastic bag in his possession at all times when he was in school for his use when needed. It was strongly suggested that absolutely no attention should be paid by the school staff to his discomfort nor would he be allowed to leave the classroom to go to the nurse's office or the restroom. Although this part of the treatment met with much adverse comment from the parents and the school staff, it was ultimately agreed upon to "give it a try."

The following day, the counselor met with Victor and his teacher and explained that both his parents and teachers wanted to assist

him in staying in school. His teacher offered much verbal support by offering to spend extra time with him to help him with his studies. At this time, Victor was told that he would meet individually with the counselor three times a week and that during these sessions he could choose to play in the playroom alone or with the counselor or use this time "just visiting." No definite time was set up for these sessions, but the counselor expressed the wish that they begin as soon as possible. All that was required of the child to attend these individual sessions was to be in school that day. Victor was told of the rules (those of remaining in class and the use of the plastic bag), and he appeared willing to cooperate.

During some counseling sessions with the child, it was learned that Victor had only one friend--a neighbor boy in his own grade, but not in his class. He had expressed disappointment in not seeing more of his friend during school. It was therefore decided that Victor should be placed in a group counseling situation. A group was comprised which involved Victor, his friend, and two other boys. They met twice a week to play games in the playroom. The group met contingent on Victor's being at school both the previous and the present day.

RESULTS

Initially, Victor appeared to test both his teachers and his parents. During the first three days that the treatment plan was in effect, Victor asked his teacher to leave the room and on several

occasions he gagged. However, it was reported by his teacher that Victor did not vomit since the treatment plan had gone into effect. At home, the results were not as dramatic as they were in school. For the first four days when the treatment plan was effect, the parents reported that the child vomited on his way to school. The parents' role was made more difficult because of the grandmother's objections to "forcing a sick child to go to school." The parents were encouraged by the counselor to ignore the child's illness as much as possible and to make him responsible for the disposal of the bag.

The parents were contacted during the second week of the treatment plan. Both of the parents as well as school personnel were amazed at how effective the treatment plan appeared to be in that Victor did not miss any school or show signs of his familiar physical malady. It should be mentioned at this time, however, that the child's grandmother left the state for two months. It was feared by both the counselor and the psychologist that when the grandmother returned, some of the child's former behavior would reoccur. When the child's grandmother did return after two months, there were no signs of regression to the child's previous behaviors. There was one incident when the child showed certain apprehensions about his part in the school play, the counselor and parents suggested that the child be allowed to paint scenery as his contribution. This was an activity he enjoyed and in which he had talent

and, therefore, it seemed to bolster his ego and his self-image.

A follow-up on this child indicated that he appears to be experiencing none of his stomach upsets. The parents report that he seems to be much happier at home and they see no indication of his old physical problem. At this time, although Victor is still behind in his academic work, his teachers say that he will pass on to the fifth grade. An interesting sidelight is his teacher's complaint that "Victor is now loud and boisterous and chases girls" in contrast to his previous withdrawn and anxious behavior. Victor's rate of school absenteeism for the 1968-69 school year was 14%, for the 1969-70 school year it was 17%, and for 1970-71 year prior to treatment was 50%. However, since the plan began, the child's absenteeism dropped to 2%.

DISCUSSION

This case study seems to indicate that a child's chronic problems can be modified utilizing various techniques. It was observed that not only was the vomiting behavior extinquished but the results seemed to generalize to some of the child's other behaviors--such as increasing his social interaction with his peers. Though the reduction in vomiting and absenteeism was probably due to a large extent the behavioral approach, it should be noted that in the opinion of the writer the counseling sessions added to the child's understanding of the changes that were going to occur in his parents and teachers. Also, the group counseling

sessions contingent upon his being in school increased the child's acceptance by peers.

It is difficult to tell what the effects of the grandmother's temporary trip were on the child's behavior. It was believed that the taking of second baseline measurement (this would have meant recreating the problem by having the parents and teachers attend to the child's gagging or vomiting) was not appropriate. The fact that the child's behavior was maintained when the grandmother returned seemed to indicate that the behavioral methods were probably the major influence in changing his behavior.

COUNSELING WITH BEHAVIORAL METHODS IN THE CLASSROOM

By
Alan Greenbaum
and
Adolph Silberman

Teachers have been concerned for some time about underachieving students. There have been various attempts made to motivate students by modifying the curriculum and adjusting the teaching methods to fit the needs of the students. Token reinforcement and contingency management systems have been shown to increase academic performance and study behaviors and to reduce disruptive behavior.

Wolf, Giles and Hall (1968) showed that academic achievement gains could be nearly doubled by using a token reinforcement system with fifth and sixth graders. Phillips (1968) used a "token economy" in a residential treatment home for "predelinquent boys." He found an improvement in homework preparation and a reduction in verbal aggression. Broden, Hall, Dunlop and Clock (1970) used a token reinforcement system in a public junior high school special education class. They greatly reduced extremely disruptive behavior and increased appropriate study behavior. Not only did students do more classwork, but also their grades improved, and they chose extra work over other activities.

Addison and Homme (1966) developed a reinforcement menu based on the contingency management concept. It paired a low probability behavior that children disliked (doing arithmetic) with a high

probability behavior that they did like (playing checkers). When each student completed the assigned work, he earned the right to choose one of five activities from the reinforcement menu. Daley, Holt and Vajanasoontorn (1966) applied the Homme menu with a group of mentally retarded girls. They paired arithmetic with pleasurable activities on the menu and found a great increase in the number of assignments completed. Homme, C. de Baca, Devine, Steinhorst and Rickert (1963) found that preschool children would engage in low probability behaviors of sitting quietly and looking at the blackboard if those behaviors were followed by high probability behaviors like running and jumping. Osborne (1969) used free time as a reinforcing contingency with deaf children to maintain in-seat and attending behaviors.

In addition to token reinforcement and contingency management systems, teacher attention has been used to increase academic performance and study rates in a regular school classroom (Hall, Lund and Jackson, 1968; Evans and Oxwalt, 1968; Thomas, Backer and Armstrong, 1968; Hall, Panyan, Rabon and Broden, 1968). The present study combines token reinforcement, contingency management, and teacher attention to increase assignments completed. This study provides teachers with a model for motivating underachieving students. Prior to this study, the teacher had minimal training in implementing behavior methods.

METHOD

Subjects and Setting

Sixteen low-achieving students in a sixth grade public school math class were involved in the program. There were thirteen boys and three girls, who ranged from 1.2 to 2.9 years below grade level as measured by the arithmetic computation subtest on the Stanford Achievement Test. This experimental math program was conducted during the last eight weeks of the 1969-70 school year.

Procedure

The first step was to determine the appropriate skill level for each student so that instruction could be individualized. This was done by administering a teacher-made test of computational skills. Though these students were underachieving sixth graders, they worked on skills involving multiplication, division, discount, percentages, averages, and algebraic equations.

The class met for fifty-minute periods Monday through Friday. Each student was assigned work in conjunction with his instructional level. The amount of work was based on the ability of the student to complete his assignment in about half of the period. The contingency management aspect of the program took place when a student completed his assignment. He placed it on the teacher's desk and earned the right to have free time for the remainder of the period. During this free-time period, either he could use any of the dozen or so games

provided or listen to records through earphones at the listening table.

A token reinforcement system was set up to act as an additional method to motivate the students. The point system focused not only on completion of assignments but also on accuracy of response. Each student earned ten points for merely completing his assignment. Additional points could be earned for accuracy in computation of 60% or more. The specific number of points earned with the corresponding accuracy is presented in Table I.

Table I

Relationship of Points to Accuracy Rate

10 points - completed assignment, less than 69% accuracy
11 points - completed assignment, 69% accuracy
12 points - completed assignment, 65% accuracy
13 points - completed assignment, 70% accuracy
14 points - completed assignment, 75% accuracy
15 points - completed assignment, 80% accuracy
16 points - completed assignment, 85% accuracy
17 points - completed assignment, 90% accuracy
18 points - completed assignment, 95% accuracy
20 points - completed assignment, 100% accuracy

In addition to the preceding table, students could earn bonus points by doing additional assigned problems and getting them correct.

One day per week (Friday) was called Auction Day. At this time, students totaled their points earned that week and bid for certain items listed at the auction. These items were determined in one of

two ways. First, the teacher observed the behavior of the children to ascertain which activities were engaged in most frequently. Second, the students were asked which activities and rewards they most preferred. In order to prevent satiation, all the items were not offered each week. When students indicated little desire for an activity by low bidding, it was removed from the next week's auction. Some of the things auctioned were: a soft drink, a model plane, a fifteen-minute recess, fifteen minutes to use the typewriter, fifteen minutes to pitch to the second graders at their recess, thirty minutes to work in the kindergarten room, a five-minute phone call to a student at another school (which was arranged through two counselors), and a motorcycle ride. Also auctioned were: cookies, ten minutes to play with a toy airplane, the right to distribute leaflets to new homes in the neighborhood, and reading a story to first graders. In addition, a "car-wash corporation" was set up whereby a student could buy the right to wash teachers' cars (during lunch hour or after school) at a fixed rate of 25¢ per car.

At the end of the auction, students began earning points for the following week. No points could be saved from week to week. The rationale behind this was to insure high motivation each week. When points are saved, students tend to relax for several days and are still able to maintain enough points to buy activities at the next auction.

Intervention Techniques

The counselor helped the teacher deal with behavior problems. Initially, he was in the room each period, but after four weeks, he was phased out, and the teacher ran the class herself. One problem faced immediately was that students did not bring pencils to class. They were told that they had to bring their own pencils and that no pencils would be provided after the first day. Another problem was how to get the teacher's attention. Students were told they must raise their hand and sit quietly in order to get the teacher's attention. Those who called out were ignored until the above rule was followed.

While students were not required to work, they were not allowed to disturb other students by talking. On three occasions, a student's work was withdrawn for five minutes and he lost the privilege of working. After he sat quietly for five minutes, his paper was returned.

Initially, there was some difficulty motivating two students. The teacher and the counselor met with each student separately. One of them claimed that he sat, and while he was not working, he did not receive any help. This was true, because nonworking behavior was ignored unless it was a disruption to other students. An agreement was evolved whereby the student was instructed to raise his hand when he did not understand a problem. When recognized by the teacher, he was to continue to ask questions until he

understood his work.

Another student claimed that when he raised his hand, no one came to help him. An agreement was set up with him in which he was instructed to raise his hand and count slowly to twenty. If not attended to, he could leave his seat and get the teacher. This happened on only one occasion.

RESULTS

Prior to initiating the experiment, baseline data showed that the class average for assignments completed was 47%. While the token reinforcement and contingency management systems were in effect, the class average for assignments completed was 91%. Prior to initiating the system no students completed all of the assignments, however, during treatment three students completed 100% of the assignments (see Table II).

Table II

Percent of Assignments Completed During Treatment

Percent of Assignments Completed	Number of Students
Below 80%	1
80 - 89%	5
90 - 99%	7
100%	3

The average accuracy per assignment for the class was 87%. The range for the particular students was a low of 66% to a high of of 94%. Because all students were operating on the same instructional level prior to the program, no pretest data is presented. The average scores are not comparable measures of performance because instruction was individualized during the program. However, the teacher reported the accuracy rate was quite low for all students (see Table III).

Table III

Average Accuracy Rate Per Assignment

Accuracy Rate	Number of Students
Below 80%	2
80 - 89%	6
90 - 99%	8

The average growth in arithmetic computation as measured by the Stanford Achievement Arithmetic Computation Subtest was 9.3 months in a seven month period. Six students gained 1.5 years or more. It should be noted that the system was in effect for only eight weeks (see Table IV).

Table IV

Increase in Stanford Achievement Test Scores

Grade Level Increase	Number of Students*
Less than .5	4
.5 to 1.0	3
1.0 to 1.5	2
1.5 to 1.9	4
2.0+	2

* One student entered late and no pretest was available.

DISCUSSION

For some time counselors have talked about working with teachers in the classroom. The present study demonstrates how the counselor functioned as a model for the teacher by demonstrating instructional or behavioral techniques while the class was in progress. The counselor also provided the teacher with immediate feedback and reinforcement (support) when she was attempting to implement the procedure.

It was apparent that the experimental program greatly increased the number of assignments completed and the corresponding accuracy of response. The counselor also helped to effect change in student and teacher behavior.

After eight weeks of the program, change had occurred in two major areas that were not measured. First, students' behavior was no longer disruptive. The teacher involved said, "*Children formerly*

characterized by excessive quarreling, short attention spans and lack of motivation, arrived in class quietly, willing to listen to explanations so they could begin work and earn points. The question unheard of before 'What can I do for extra credit?' was asked frequently." The school principal stated that many of these students had frequented his office for behavioral reasons. Since the advent of the experimental math program, he had not seen any of them in his office.

Second, student attitudes toward math had changed. When asked to comment on their feelings about the class, one student wrote:

> *"I usally hated math. I dreaded to go in from first to most of sixth. I have been in the lowest math group. I could have been in the top, because I catch on quick and am definitely not stupid, but I didn't want to learn. It immediately gave me a headache, but now I want to learn. It is fun here and anything but boring. I'm doing better in this class than any other time."*

Other students wrote:

> *"I like it very much, ever since it started."*

> *"It made me more interested in my work, because if I got my work done and knew how to do it, I would get points to buy things at the auction."*

> *"This class helps kids learn how to do math better and it's fun while you do it."*

As the math class experiment progressed, several teachers visited to see how the method was employed. Most of them commented on how well behaved the students were. A few tried the token reinforcement or contingency management systems in their own classes.

One teacher asked the counselor to help her set up an identical program in her fifth grade math class.

The program affected the teacher in quite positive ways. She said, "*My attitudes also changed. Seeing the facial expressions of the children, happy, thoughtful, enthusiastic, made a much more congenial atmosphere in the classroom. We began to really know and enjoy each other.*"

The experiment improved student attitude and behavior as well as academic performance. It would be interesting to note the results over an entire school year. What would be the effects of holding an auction every two weeks instead of every week? How could this system be applied to other subject areas? At any rate, the counselor can use the token reinforcement and contingency management systems to show teachers how to obtain rapid behavior change in their own classrooms.

Note: At the time of the study Alan Greenbaum was an elementary counselor in the Tempe Elementary School District, Tempe, Arizona. He is presently a doctoral student in counseling at Arizona State University. Adolph Silberman is Coordinator of Elementary Counselors and School Psychologist at Tempe Elementary School District, Tempe, Arizona.

REFERENCES

Addison, R. M., & Homme, L.E. The reinforcing event (RE) menu. *National Society for Programmed Instruction Journal*, 1966, 5, 8-9.

Broden, M., Hall, D. R., Dunlop, A., & Clark, R. Effects of teacher attention and a token reinforcement system in a junior high school special education class. *Exceptional Children*, Jan., 1970, 341-349.

Daley, M. F., Holt, G., & Vajanasoontorn, N. C. *Reinforcement Menus in the Instruction of Mentally Retarded Children.* Paper presented at the Conference on Instructional Methods and Teacher Behavior, Berkeley, California, Nov., 1966.

Evans, T. & Ozwalt, G. Acceleration of academic progress through the manipulation of peer influence. *Behavior Research and Therapy*, 1967, 5, 1-7.

Hall, R. V., Lund, D., & Jackson, D. Effects of teacher attention on study behavior. *Journal of Applied Behavior Analysis*, 1968, 1, 1-12.

Hall, R. V., Panyan, M., Rabon, D., & Broden, M. Instructing beginning teachers in reinforcement procedures, which improve classroom control. *Journal of Applied Behavior Analysis*, 1968, 1, 315-322.

Homme, L. E., C. de Baca, P., Devine, J. V., Steinhorst, R., & Rickert, E. J. Use of the Premack principle in controlling the behavior of nursery school children. *Journal of the Experimental Analysis of Behavior*, 1963, VI, 544.

Osborn, G. J. Free time as a reinforcer in the management of classroom behavior. *Journal of Applied Behavior Analysis*, 1969, II, 113-118.

Phillips, E. L. Achievement place: token reinforcement procedures in a home-style rehabilitation setting for "predelinquent" boys. *Journal of Applied Behavior Analysis*, 1968, I, 213-223.

Thomas, D. R., Becker, W. C., & Armstrong, M. Production and elimination of disruptive classroom behavior by systematically varying teachers behavior. *Journal of Applied Behavior Analysis*, 1968, I, 35-45.

Wolf, M., Giles, D. K., & Hall, V. R. Experiments with token reinforcement in a remedial classroom. *Behavior Research and Therapy*, VI, 51-64.

THE CASE OF TOM

By Larry Mishler

PROBLEM

Tom was a fifth-grade student who had virtually achieved almost no academic gains during the first five months of school. The elementary school counselor was contacted after Tom's mother expressed her concern to the teacher about the boy's academic progress and his behavior at home.

In a conference with his teacher, the counselor learned that bribing, scolding, threats, force, and punishment had been unsuccessful in getting Tom to do his work or to hand in any work that he did finish. Many times the teacher would encourage Tom to start his assignment, but unless she was standing over him he would be distracted by any number of things and would not continue to work.

The counselor met with Tom's mother to discuss his lack of progress at school and attempt to find out more information about the boy's behavior. Tom's mother indicated that she thought much of Tom's trouble was related to her divorce from Tom's father, though years previous. She felt that Tom had been very close with his father and this further made the divorce more difficult for him. In attempting to compensate for this situation, she stated that she bought things for Tom to try to make life easier for him. The mother said that since the divorce, she believed that the child had become more rebellious but in a very subtle way. Tom often promised to do jobs or chores

that his mother would ask him to do, but he rarely carried through and always had an excuse why he could not carry out his promises. She indicated that he often lied about the excuses.

During observations in the classroom, the counselor noted that Tom often appeared to look as if he was attending to the task, but he was usually doing something else--such as drawing during a written assignment or reading a comic book inside of his textbook during a reading assignment.

After observing Tom in the classroom, the counselor discussed with the child his behavior and his inability to complete and turn in assignments. The boy made many excuses about why he did not finish his work. He usually displaced the responsibility to others, such as, "Somebody always steals my paper or pencils," or would say, "The work is too hard," "I don't have enough time," etc.

In attempting to determine what the child liked so that reinforcers could be selected, the counselor discussed his interests with him. It was determined that he seemed to greatly enjoy putting model cars together and had a vast knowledge of cars and automotive engine construction.

TREATMENT

It was decided to choose finishing assignments as the behavior to be modified. Since Tom showed a great interest in and knowledge of cars, it was decided that a checkmark system would be used in which the boy would earn marks so that he could earn the privilege

of working on a model car. The way in which the child would get to work on the car was by earning checkmarks for assignments completed. These checkmarks were to be recorded on a card with 18 rows of 10 spaces each.

It was also believed by the counselor that more checkmarks should be earned for higher achievement levels on each assignment, so the following schedule was established:

Any assignment	5 checkmarks
Any assignment with 59-69% accuracy	6 checkmarks
Any assignment with 70-84% accuracy	8 checkmarks
Any assignment with 85-100% accuracy	10 checkmarks

It would take 50 checkmarks to earn 15 minutes of time which Tom could use to work on assembling models.

During Condition I of the treatment, the number of points the child earned was recorded and kept by the teacher. After five days of this phase, however, as a result of little shaping of behavior it was decided to give the child a copy of the checkmarks he earned each day so that he would have knowledge of the number he was earning. This was identified as Condition II.

RESULTS

As can be seen from Table I, no assignments were completed for the five days of baseline observations.

Table I

Number of Assignments Completed
During the Baseline Observation

Day	Number of Assignments Completed
1	0
2	0
3	0
4	0
5	0

During the Condition I Phase, the results were recorded and kept by the teacher. As shown in Table II, the child turned in two assignments the first day and after that, no assignments were turned in for the remaining four days of the Condition I Phase.

Table II

Number of Assignments Completed and Checkmarks
Earned in Condition I Phase

Day	Number of Assignments Completed	Checkmarks Earned
6	2	10
7	0	0
8	0	0
9	0	0
10	0	0

On the eleventh day, two identical cards were kept. This started the Condition II Phase. One was kept by the teacher to record the checkmarks and one was given to Tom so that the checkmarks would be transferred after the assignment was graded. On the start of the eleventh day, a card with the previous ten checkmarks earned was given to Tom and he was instructed to keep it for his own reference. By the end of that day, three assignments had been turned in and the child earned an additional 18 checkmarks. On the twelfth day, the child earned an additional 16 checkmarks and on the thirteenth day, he earned another five checkmarks giving him a total of 49 checkmarks. This was one checkmark short of the number he needed to trade in his card for 15 minutes of free time. As can be seen in Table III, after the first reinforcement period the frequency of work and turning in assignments greatly increased.

Table III

Number of Assignments Completed and Checkmarks Earned in Second Condition Phase

Day	Number of Assignments Completed	Checkmarks Earned That Day
11	3	18
12	2	16
13	1	5
14	3	18
15	4	34
16	4	32
17	3	24
18	3	24
19	4	36
20	3	30

After the third reinforcement period, the trade-in level was changed from 50 to 75 checkmarks. This was done in an attempt to fade-out the checkmark system.

DISCUSSION

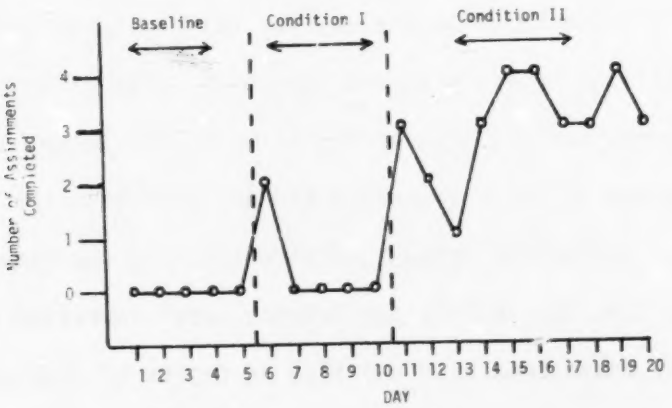
In this case, it appeared that the behavior modification techniques tended to improve the child's quantity and quality of performance. It is interesting to note, however, that a lack of results

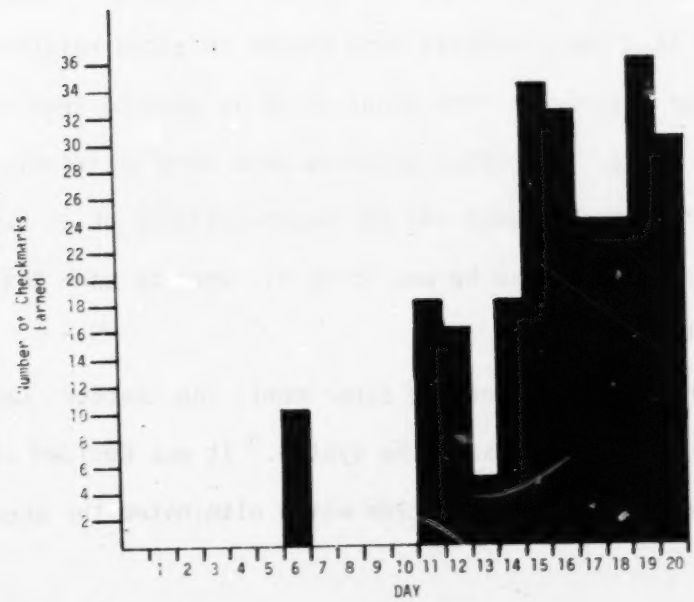
was obtained during the first Condition phase. This may indicate that often when behavior modification techniques do not seem to work, it is not the principle which is at fault but rather the application. This means that when failure of the system occurs, careful evaluation should be made so that success may be obtained.

During one point in the Second Condition Phase, the child was short only one point in order to earn his free time. The counselor instructed the teacher that the boy was not to engage in his free activity until he actually earned the point. Though this may have seemed somewhat strict, it was done as an effort to get the child to improve his quality of performance and to learn that the teacher was going to follow the method consistently. As was reported in the results section, the child's performance level increased not only in number of tasks completed but also in degree of accuracy. Although not shown in the data as it was not part of the experiment, the teacher indicated that Tom's friends also became an added reinforcement for him. After school, he took great pride in showing them what he had been able to do. The other children were very positively reinforcing with their comments about his car model-building skill and about how they were happy because he was doing his work to earn the free activity time.

After termination of the experiment, the teacher, child, and counselor met and discussed the system. It was decided at this time that a contract would be written which eliminated the checkmark

system. The boy and the teacher, however, agreed that when Tom had completed his assigned work he would be given free time to work on model cars. This contract system was generalized to the rest of the class after five days because it worked so well with Tom. The teacher indicated that the production of the class as a whole had increased and that it seemed as if the mood was more pleasant for the entire class.





THE CASE OF LAURA

By Judee Winters

PROBLEM

Laura was a rather quiet kindergarten girl who was successful in most areas of school. The teacher noticed, however, that Laura was often late to class. When she was not late, she arrived without any time to spend playing on the playground with the other children. The teacher contacted Laura's mother and she said that Laura refused to walk to school even though they lived within two blocks. The mother also noted that several of Laura's friends walked to school, but the child still refused. Her mother therefore drove her to school every day. This was quite inconvenient for the mother because she had a two-month-old baby. After arriving at school, Laura would not leave her mother until she saw the teacher on the playground.

After class started, Laura seemed to cope fairly well with the school setting for the rest of the day although she was generally quieter than the other children and tended to stay rather close to the teacher. She did participate in class activities and sometimes volunteered to do things for the teacher (such as taking the attendance to the office). The mother also reported other types of dependent behaviors in Laura such as wanting to hold her mother's hand whenever other people were around. It was

decided that one of the most immediate problems, as well as being a behavior which should be first shaped, was that of getting Laura to school on time. Therefore this was the behavior chosen for treatment in this study.

TREATMENT

The counselor held an initial interview with Laura for the purpose of discovering some potential reinforcers which could be used in a behavior modification approach. The primary reinforcers of candy, and the secondary reinforcer of time to play games with the counselor, and being chosen for classroom tasks seemed to have high desirability for the child.

It was decided to use candy and an older student or adult attention as reinforcers for this study in an attempt to shape Laura's behavior of walking to school by herself or with same age peers and playing with peers on the playground. Part of the treatment plan consisted of giving Laura a partner with whom to spend time twice a week. The partner who was selected for her was a fifth-grade boy who was found to be very patient while working with other students. When the treatment plan was presented to him, he seemed eager to participate. Throughout the plan, he was given daily instructions on what to do. He was told that he would be a "counselor aide" because the counselor did not have enough time to see all students.

The counselor met once with Laura and once with Paul. She

also met with Laura's mother to explain the plan to her and to enlist her support and cooperation. Communication was ongoing from the first meeting by telephone and specific instructions were also given to the mother.

The plan was as follows: On the first day of the plan, Laura was told that if she left her mother as soon as she saw the counselor on the playground, she would receive five M&M's. Laura did this and received the candy immediately along with verbal praise from the counselor. The counselor stayed on the playground until the classroom teacher came out to line up the class. On the second day, the child's mother was instructed to bring her ten minutes early and drop her off at the playground. If the child played with her friends and did not cry, she would receive ten M&M's. On the third day, both the counselor and the child's partner (Paul) waited for Laura on the playground. The counselor and counselor aide gave verbal praise for appropriate behavior. From the fourth day on, checkmarks were used instead of candy and Laura could earn as many as five checkmarks for appropriate behavior. When Laura accumulated 30 checkmarks, she could trade them for time to play games with Paul or the right to do errands for the teacher. Paul was instructed to wait on the playground to record the checkmarks. The appropriate behavior was defined as arriving ten minutes early, leaving her mother, not crying, going to the playground without crying, and playing with other students her age.

On the fifth day, Paul was to go to Laura's house and walk her to school. She could earn one checkmark for each of the following behaviors: leaving her mother, not attempting to return home, not crying, arriving ten minutes early, leaving Paul and playing with others on the playground until it was time to line up.

On the sixth and seventh days, Paul went to Laura's home to walk her to school. The same criteria for earning points was used. On the eighth day, Paul was instructed to meet Laura on a corner approximately half-way between her house and school. This was in a location where Laura could see him from her front yard. She could earn one point for walking by herself to meet Paul, one for not crying, one for arriving early, one for leaving Paul, and one for playing with her classmates on the playground. On the ninth day, the same procedures as those from the eighth day were used.

On the tenth day, Paul was to be waiting for Laura on the playground, and she was to walk to school by herself. She could earn ten points for arriving early and playing with her friends, but only five points for coming by herself.

Paul waited on the playground for Laura for three more days. From the fourteenth day on, Laura was told that she would not know whether Paul, the counselor, or the teacher or none of these people would be waiting for her when she arrived at school. If one of these three people was waiting and Laura maintained the behavior of getting to school by herself and in time to play with her friends,

she could earn ten points.

RESULTS

The results indicated that it took a total of 14 school days to get the child to walk by herself from home to school. On the first day, however, the child left her mother and went to the counselor. On the second and third days, the child left her mother and played with other children for ten minutes. The child left her mother at the car, met the student aide, and played with the other children on the fourth day. On the fifth, sixth, and seventh days, the child walked to school with the student aide. On the eighth and ninth days, she walked to school and met the student aide half-way. On the tenth through the thirteenth days, the child walked to school by herself and met the student-aide on the playground. The child walked to school be herself and played with other children on the fourteenth day. At this point, she continued to receive checkmarks for an additional two weeks when the checkmark system was terminated. Her behavior of walking to school by herself continued from this point on throughout the rest of the school year.

DISCUSSION

Positive reinforcement and successive approximation were the two basic methods used in this behavior modification approach. Instead of initially requiring the child to get to school without her mother and perhaps creating some temporary upset, it was

decided to slowly fade out the involvement of the mother by introducing other older individuals (counselor and student aide) and then eventually fading them out. In addition, it appeared that the child playing with the other children on the playground became reinforcing in its own right.

It should be further pointed out, however, that Paul was encouraged to go to the playground occasionally just to say "hi" to Laura. This may have served as an intermittent schedule of reinforcement for the child and therefore insured a greater likelihood that the behavior would be maintained (as it was). This, however, was not recorded.

It is interesting to note in this study that after a two-week period of not meeting with Paul, the child simply asked why she was not seeing him anymore. When the teacher replied that the child did not need to earn points anymore, no further questions were asked. This is mentioned here because phasing out the point system and fearing that the child will become dependent on it are typical concerns of many teachers. If the system is used correctly, dependency on the point system should not become a problem.

Although this was certainly not an extremely serious problem to modify, it may be assumed that it probably would have continued as long as the mother was willing to drive Laura to school. In addition, it shows a way of utilizing other students in the school, thus decreasing the amount of counselor time needed in direct contact with the child.